

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in and relating to Bleaching Materials particularly for the Bleaching of Hair

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GESELLSCHAFT, sole responsible partner
Martha Schwarzkopf, organised under the
laws of Germany, of 36/42, Alboinstrasse,
5 Berlin-Tempelhof, Germany, do hereby
declare the nature of this invention and
in what manner the same is to be performed,
to be particularly described and ascer-
tained in and by the following statement:—

10 For the bleaching of living hair use is
made of hydrogen peroxide solutions
which are made strongly alkaline with
ammonia. The opinion is held that human
hair is the more rapidly and intensively
15 lightened in colour the lower is the hydro-
gen ion concentration and the higher the
hydrogen peroxide content of the bleaching
material. Since in practice bleaching in
hairdressers' establishments must be carried
20 out in from 20 to 30 minutes so it was
thought to create the conditions therefor
by corresponding standardisation of the
means used. The high concentrations of
solution, however, act disadvantageously
25 upon the skin.

Weak bleaching solutions have the
disadvantage that they do not moisten
the dark, always greasy fresh growth
satisfactorily and run into the already
30 previously bleached less greasy hair, so
that this is more strongly bleached and
in some circumstances is even destroyed,
while the dark fresh growth is only in-
sufficiently lightened in colour. It has
35 been sought to avoid this disadvantage
by adding to the hydrogen peroxide in-
organic materials such for example as
magnesium carbonate. Magnesium oxide
has a particular significance as an addition
40 since, as in the case of ammonia, it has in
hydrogen peroxide, and thus also in the
bleaching solution, a relatively high pH
value, namely above 11.

These materials, however, readily dry
45 and produce crumbly masses which inter-
fere with the continued bleaching and
therefore lead to non-uniform bleaching.

The object of the present invention is to
avoid these disadvantages.

50 It has been surprisingly found that
hydrogen peroxide of lower concentration
than normally employed for this purpose

at relatively low pH value better bleaching
can be obtained than with the highly
concentrated materials hitherto employed, 55
when instead of free ammonium hydroxide
buffered ammonium salts are added to the
bleaching material. It is thus possible
readily to reduce the pH number of the
bleaching material considerably, namely 60
to from 7 to 9. The ammonium salts
and salts of organic amines appear con-
siderably to improve the bleaching effect,
which enables operation with a consider-
ably lower percentage of hydrogen per- 65
oxide. Thus, it is possible even with a
3% hydrogen peroxide solution which
contains ammonium salts and has a pH
value of 8.8, to obtain in the same time the
same bleaching effect on living hair as is 70
obtained with a material which consists
of magnesium oxide and 7 to 10% of hydro-
gen peroxide with a pH value of about 12.
This knowledge is new. In place of the
ammonium salts also organic amines can 75
be employed, and instead of the hydrogen
peroxide, hydrogen peroxide compounds
such as hydrogen peroxide urea, persalts
such as perborates, percarbonates and so
forth in such concentration as to yield 80
the same quantity of free oxygen.

In Specifications Nos. 289,156 and
273,414 mixtures comprising peroxide com-
pounds and mono-ammonium phosphate
are proposed for bleaching purposes. These 85
specifications however do not relate to
the bleaching of hair and describe only
mixtures wherein the concentration of the
peroxidised compounds is very low, i.e.
considerably below the figure specified 90
herein as being the approximate minimum
suitable for use in the bleaching of hair.

The bleaching agent according to the
invention is advantageously mixed with
thickening materials in order to enable it 95
to moisten the greasy portion of the hair
more satisfactorily. In order to avoid the
disadvantages above referred to, however,
inorganic materials such as talcum, kaolin
and chalk are avoided and according to 100
the invention use is made of readily swell-
ing substances of organic character such,
for example, as polysaccharides and albu-
minous materials of high molecular weight

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which are not attacked by the oxygen evolved or are attacked only to a very slight degree. The choice can be so made that a transparent paste is obtained which 5 renders it possible to follow the bleaching process uninterrupted with the eye. Such materials are for example starch, tragacanth, methyl cellulose, gum arabic, gelatine, casein, dextrose and others.

10 The bleaching material may contain wetting agents such for example highly sulphonated oils, fatty alcohols, alcohol sulphonates and others. In order to avoid a disadvantageous action with porous 15 hair the bleaching agent may also contain additions of waxes, lipoids such as lecithin and cholestrin, fatty alcohols and similar fat materials.

The advance associated with the new 20 material resides in the fact that with careful and adequate bleaching and brightening action upon the hair, irritation of the skin can be avoided which usually readily arises with the use of higher concentrations. A further advance resides 25 in the fact that the magnesium and calcium compounds which are extraordinarily deleterious for the hair are excluded and that materials, which as a result of their 30 sharp crystalline structure lead to skin irritation such as silicic acid, are avoided. It is moreover possible by the use of the usual concentrations to arrive at a still greater bleaching effect than hitherto. 35 The following examples illustrate the composition of bleaches produced according to the invention :

- 1) 65 parts soluble starch.
40 2 " East Indian Tragacanth.
4 " synthetic wax.
3.5 " ammonium chloride.
17 " sodium bicarbonate.
4 " tertiary sodium phosphate.
4 " sodium lauryl sulphonate.
45 200 " water.
20 " hydrogen peroxide 30%.
2) 30 parts sodium perborate.
50 10 " ammonium chloride.
2 " sodium salt of aleylmethyl
taurinic acid.
100 " water.
25 " potato flour.

3) 1 part methyl cellulose.
1 " East Indian tragacanth.
5 " trisodium phosphate. 55
20 " sodium bicarbonate.
10 " trimethyl amon chloride.
30 " hydrogen peroxide urea
(solid).
90 " water. 60

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is :-

1. A bleaching material for the bleaching of living hair, having a pH of 7 to 9 and comprising buffered ammonium salts or buffered salts of organic bases and one or more substances liberating oxygen such as hydrogen peroxide, hydrogen peroxide compounds or persalts, the oxygen liberating substances being present at least in amount equivalent to approximately 3% by weight of hydrogen peroxide. 70

2. A method for bleaching living hair by means of materials as claimed in Claim 1 characterised by the use of a mixture which also contains high molecular transparent swelling agents. 80

3. A bleaching material as claimed in claim 1 wherein the active ingredients are bound together by means of high molecular swelling materials. 85

4. A bleaching material as claimed in either of claims 1 and 3, wherein one or more wetting and penetrating agents is or are incorporated. 90

5. A bleaching material as claimed in any of claims 1, 3 and 4, wherein additions of reviving substances such as waxes and lipoids are contained. 95

6. Bleaching materials particularly for bleaching hair substantially as described.

Dated this 19th day of November, 1935.
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